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Back Bay National Wildlife Refuge 2000 Marshbird Callback Survey

Survey Method

Last year's selection of points based on three mini-surveys was used as the basis of the route chosen for this year's survey. A series of 18 points from those three surveys was chosen to give a continuous series of points along the refuge impoundments. Two sites were rejected as having too much woods. The 18 sites on the 2000 survey began just south of the headquarters complex, proceeded along the west dike past the entrance to False Cape State Park, and came back along the east dike with one site on the south cross dike. The latitude and longitude of each site was marked with a GPS reading from a Magellan GPS 315. The location of each site by this method was reproducible to approximately +/- twenty feet. A map of the route used in the 18 site 2000 survey is included. The numbering of the sites for both 1999 and 2000 is included on the map.

This route was first surveyed on May 19, 2000 when the callback technique was tried. The wind during this survey was a little too high for the survey to be officially accepted and only 12 of the sites were sampled. During the other three surveys on May 23, June 4, and June 14, 2000 all 18 sites were surveyed according to the official protocol. A bicycle was used for transportation and little or no interference was encountered during the survey. A Sony CFD 980 boom box was used and transported conveniently in a bicycle saddlebag. At each survey point the boom box was placed on the rear of the bicycle, turned on, and the ten minute tape cycle begun. The Coastal Callback tape was used. All the birds seen or heard during the ten minute sampling period were recorded on the Callback Evaluation Data Sheet. After the ten minute period, the boom box was turned off, the tape was turned over, the boom box was returned to the bicycle saddlebag, and the bicycle driven to the next survey point as dictated by the GPS reading. By the third survey moving from one survey point to another was very straightforward and the entire route was covered in about 4 ½ hours. The first and the third surveys were covered from point 1 to point 18, while the second survey was covered in reverse order, from point 18 to point 1. All the surveys except the preliminary survey met the recommended weather criteria. I was the only observer except for the habitat survey during which John Gallegos accompanied me and pointed out the more important plant communities present at each site.

Results

The results of each of the surveys is given in the appendix along with the original data sheets. A total of 83 species were observed. The total number of individuals recorded for each of the target species is as follows: King Rail (25), American Coot (14), Pied-billed Grebe (18), Sora (1), Wood Duck (31), Common Moorhen (3), Least Bittern (5). The only time Sora was heard was on the preliminary survey which was the earliest survey. Least Bittern was not recorded on the first two surveys. Common Moorhen was recorded only on the first and last surveys. There were no observations of or responses from Black Rail and Virginia Rail. A summary of each of the four surveys is also included in the appendix.

A brief analysis of the callbacks shows that for King Rail seven callbacks occurred during the passive period, 15 occurred during the King Rail taped call, 8 occurred during the taped call of another species. There were two observations of King Rail with no callback. Several other target species gave callbacks that were not well correlated with the species' taped call. These numbers are summarized in the appendix.

Recommendations

My recommendations for next year are to continue the 18 point survey route. I think it a very reasonable sampling of the habitats in the main section of the refuge. I think three surveys are adequate. I believe the current marshbird callback protocol to be a reasonable one and it should be followed on this route for the remaining four years of the survey. The first survey, however, should be around May 1 to increase the chances of sampling migrant marshbirds like Sora. The second survey should be during late May and the last during mid June. Least Bitterns were more active during June, so it is important to include June dates. King Rails seemed to be active through the entire survey period. As a note of interest, I did not encounter any possible Clapper Rails during the refuge surveys.

Because of the early start times of the surveys it is imperative that the observer be issued a passkey to get onto the refuge before it is officially opened.

Two enhancements to the survey should be explored next year. The first is surveying and establishing a water route probably by canoe and the second is conducting nighttime surveys. Both of these were suggested in the 1999 report and I support them for 2001.

Summary of Marshbird Callback Survey

	Prelim	Survey 1	Survey 2	Survey 3
Date of survey	05/19/00	05/23/00	06/04/00	06/14/00
# points surveyed	12	18	18	18
Starting time	6:27	5:22	5:43	5:27
Ending time	9:43	10:24	10:27	10:06
Route direction	N-S	N-S	S-N	N-S
Wind	S 15	ESE 0-3	E 5-7	NNE 0-5
Cloud cover	20%	na	20%	fog
Starting temp	66F	64F	64F	72F
Ending temp	81F	67F	71F	na
Least Bittern			2	3
Wood Duck	6	10	8	7
King Rail	3	9	8	5
Sora	1			
Common Moorhen	1			2
American Coot		2	1	11

Variety of responses by target species to Coastal Callback Tape

	Responded during passive period	Responded to taped call of its own species	Responded to taped call of another species	Recorded visually with no vocalization
Pied-billed Grebe	7		5	5
Least Bittern	4		1	
King Rail	7	15	8	2
Sora			1	
Common Moorhen				2
American Coot				2

Trial Marshbird Callback Survey May 19, 2000

[illegible]

CENNUM#

(5304) 5305 5306 5307 5308 5309 5310 5311 5312 5313 5314 5315 5316 5317 5318 5319 5320

Species	Pt 1	Pt 2	Pt 3	Pt 4	Pt 5	Pt 6	Pt 7	Pt 8	Pt 9	Pt 10	Pt 11	Pt 12	Pt 13	Pt 14	Pt 15	Pt 16	Pt 17	Pt 18
TARGET SPECIES																		
Pied-billed Grebe													1					
Wood Duck				1		2	1					6 fly						
King Rail		1		2	1	1	1				1						1	1
Sora																		
Common Moorhen																		
American Coot							1				1							
OTHER SPECIES																		
Double-crested Cormorant			7 fly					18				2 fly						
Great Blue Heron						1		1+1 fly	3							1		
Great Egret									1									
Snowy Egret			3 fly			1					1	2+1 fly	1	1	1	2 fly	1	6
Tricolored Heron			2 fly									2+6 fly						2
Green-backed Heron																		
White Ibis												1						
Mute Swan												7 fly						
Canada Goose					1	1	1	1	1		2							
American Black Duck																1	1	1
Mallard					2									6 fly				
Bald Eagle												2 + 2 fly		4	6			
Osprey				1							1			1 juv				
Bobwhite			1		1									1 fly				
Black-bellied Plover		1																
Semi-palmated Plover														5				1
Killdeer						1			1			6		1	10	3		2
Greater Yellowlegs					1				7 fly		1							
Lesser Yellowlegs									1 fly					2	6	1		3
Solitary Sandpiper																		4
Spotted Sandpiper				1				2										
Short-billed Dowitcher												2			1			
Semi-palmated Sandpiper													1		8			
Least Sandpiper						1						8	10		20			
shorebird sp													2		10			
Laughing Gull								20 fly								30		
Caspian Tern									1 fly									
Common Tern																		
Mourning Dove																		
Chuck-wills-widow	2							1										3
Ruby-throated Hummingbird																		
Red-bellied Woodpecker																		1
Downy Woodpecker											1							
Yellow-shafted Flicker																		
Great Crested Flycatcher			1															

Marshbird Callback Survey May 23, 2000 (cont)

[illegible]

Marshbird Callback Survey June 4, 2000

CENNUM # - 5322 5323 5324 5325 5326 5327 5328 5329 5330 5331 5332 5333 5334 5335 5336 5337 5338 5339

Species	Pt 1	Pt 2	Pt 3	Pt 4	Pt 5	Pt 6	Pt 7	Pt 8	Pt 9	Pt 10	Pt 11	Pt 12	Pt 13	Pt 14	Pt 15	Pt 16	Pt 17	Pt 18
TARGET SPECIES																		
Pied-billed Grebe					1		2						1					
Least Bittern						1	1											
Wood Duck				1			1			4	4							
King Rail				2							1			3			2	
Sora																		
Common Moorhen																		
American Coot													1					
OTHER SPECIES																		
Brown Pelican																		
Double-crested Cormorant								5				1			40	40		
Great Blue Heron	1 fly			1	1		1	1	1 fly			1 fly				1		1 fly
Great Egret												2 fly		1 fly		1		1
Snowy Egret							1 fly					2		2 fly		1+1 fly		1 fly
Tricolored Heron																		1
Cattle Egret												10						
Green-backed Heron																		
White Ibis															1		1	
Mute Swan								1										
Canada Goose								6 fly		2			2+6y	2		2		
American Black Duck																		
Mallard							2			2 fly								
American Wigeon																1		2
Bald Eagle																		1
Osprey	6					2		2	1	2								
Bobwhite		1		1														1 fly
Black-bellied Plover																	1	
Semi-palmated Plover																		
Killdeer					1							1						
Greater Yellowlegs														1 fly				
Lesser Yellowlegs												2						
Solitary Sandpiper																		
Spotted Sandpiper																		
Short-billed Dowitcher																		
Semi-palmated Sandpiper																		
Least Sandpiper					1							1						
shorebird sp																		
Laughing Gull																		
Ring-billed Gull									1									
Caspian Tern																		
Common Tern																		
Mourning Dove																		
Yellow-billed Cuckoo													1					

Marshbird Callback Survey June 4, 2000 (cont)

[illegible]

QENNUM#

5340	5341	5342	5343	5344	5345	5346	5347	5348	5349	5350	5351	5352	5353	5354	5355	5356	5357
Pt 1	Pt 2	Pt 3	Pt 4	Pt 5	Pt 6	Pt 7	Pt 8	Pt 9	Pt 10	Pt 11	Pt 12	Pt 13	Pt 14	Pt 15	Pt 16	Pt 17	Pt 18

TARGET SPECIES	Pt 1	Pt 2	Pt 3	Pt 4	Pt 5	Pt 6	Pt 7	Pt 8	Pt 9	Pt 10	Pt 11	Pt 12	Pt 13	Pt 14	Pt 15	Pt 16	Pt 17	Pt 18
Pied-billed Grebe		1			1	3	3						2			1		
Least Bittern				1	1				1									
Wood Duck							2		1 fly		2							
King Rail			2															1 fly
Sora															1			2
Common Moorhen							2											
American Coot							9						1		1			
OTHER SPECIES																		
Brown Pelican																		
Double-crested Cormorant																		
Great Blue Heron							1		1		1							
Great Egret	1 fly			1	1		2		2 fly	1	2	1 fly						
Snowy Egret									2		5				2	2	1	
Little Blue Heron															3	15		12
Tricolored Heron																2		
Cattle Egret																1		
Green-backed Heron																		
Yellow-crowned Night-Heron									1 fly									
White Ibis									2									
Glossy Ibis																		
Mute Swan										1 fly		1 fly		1 fly				
Canada Goose																		
American Black Duck														1	22			23
Mallard	1 fly			2 fly			2			2								
American Wigeon														1	2			14
Bald Eagle																		
Osprey					1			1				1 fly						
Bobwhite			1															
Black-bellied Plover																		
Semi-palmated Plover																		
Killdeer																		
Greater Yellowlegs											1							
Lesser Yellowlegs									1		1							
Solitary Sandpiper																		
Spotted Sandpiper																		
Short-billed Dowitcher																		
Semi-palmated Sandpiper																		
Least Sandpiper																		
shorebird sp																		
Laughing Gull												2 fly						
Ring-billed Gull																		
Caspian Tern																		

[illegible]

Survey Points - Marshbird Callback

1999 1a, 2a etc

2000 ①, ② etc

Atlantic Ocean

BACK BAY

National Wildlife Refuge

Virginia Beach, Virginia

Points are

2.5 cm apart = 400m

160 paces = 250m

= 256 paces

